



# RAILROAD COMMISSION OF TEXAS

## OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 08-0273212

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THE APPLICATION OF RELIANCE ENERGY, INC. TO ADOPT THE FIELD RULES FOR  
THE LOWE (ATOKA) FIELD, ANDREWS AND MARTIN COUNTIES, TEXAS

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HEARD BY: Andres J. Trevino, P.E. - Technical Examiner  
Marshall F. Enquist - Hearings Examiner

HEARING DATE: December 1, 2011

**APPEARANCES:**

Cary McGregor

John Soule

**REPRESENTING:**

Reliance Energy, Inc.

Occidental Permian Ltd  
Oxy USA

### EXAMINER'S REPORT AND RECOMMENDATION

#### STATEMENT OF THE CASE

Reliance Energy, Inc. requests that field rules be adopted for the Lowe (Atoka) Field. The proposed rules are summarized as follows:

1. Designation of the field as the interval from the top and bottom of the Atoka as found between approximately 11,210 feet and 11,716 feet as shown on the log of the Mabee JE Well No. 1;
2. 467'-0' well spacing, take points and 50' box rule;
3. 320 acre/optional 40 acre density for oil and gas wells, with special provisions for assignment of acreage to horizontal wells, No Plats;
4. Allocation based on 50% acreage and 50% per well, 100% AOF for gas wells.



This application was unopposed and the examiners recommend that the Field Rules for the Lowe (Atoka) Field be adopted as proposed by Reliance Energy.

### DISCUSSION OF EVIDENCE

The Lowe (Atoka) Field was discovered in July 1975 at a depth of 11,220 feet. The field produces from the Atoka formation. There is currently one gas well and no oil wells listed on the proration schedule. There are 136 wells which show completions in the Atoka that are commingled with the Spraberry (Tread Area) Field and are placed in the Spraberry (Tread Area) Field. Reliance recently completed the first horizontal well, the Mabee 138 Well No. 705H, in the field. Cumulative production from the vertical wells in the field through November 2011 is 93,505 BO.

Reliance is amending the existing field rules in the Lowe (Atoka) Field to adopt 320 acre density with optional 40 acre units. Drainage calculations were not made on the horizontal well drilled due to the short production history. Assuming an average 5% porosity, 29% water saturation, 20 feet of net pay and a 15% recovery factor, drainage area calculations for 26 vertical wells indicate the wells will drain between 2 acres and 294 acres. The most productive vertical well, Chevron Mabee JE -A- NCT-1 well had an initial potential of 101 BOPD and a drainage area calculation of 228 acres. The Mabee 138 Well No. 705H (horizontal well) had an initial potential 2.8 times higher than the Chevron Mabee JE -A- NCT-1 well (vertical well). Reliance believes the horizontal wells will drain up to 640 acres and that some vertical wells will drain less than 40 acres. Reliance requests additional acreage be assigned to horizontal wells where acreage is equal to lateral length  $\times .16249 + 320$  acres with a maximum acreage assigned to a well of 640 acres. Reliance requests this acreage factor based on evidence that there are areas of the field that have extensive micro fractures that when drilled into will drain above average areas of the reservoir. The Examiner's Report for Oil and Gas Docket No. 8-88,414 issued on September 26, 1986 for the review of temporary field rules for the Moonlight (Mississippian) Field discusses the existence of the fracture system. Exxon, the applicant in that docket, used pressure test data and drainage calculations to support continuation of the 640 acre density development.

Reliance requests the horizontal rules in order to promote the efficient and effective development of the remaining hydrocarbons. The proposed horizontal rules are similar to horizontal rules found in other horizontal play fields throughout the State. Reliance requests to adopt 0' between well spacing to be consistent with the spacing rules of other fields undergoing horizontal development. The 0' between well spacing will allow the drilling of horizontal wells in between the existing vertical wells and allow maximum flexibility in placing horizontal wells to maximize hydrocarbon recovery. Reliance proposes a 50 foot "box rule" for horizontal drainhole wells that would allow drainholes to deviate 50 feet from either side of their permitted track without the necessity of obtaining a Statewide Rule 37 exception. Reliance also requests "take point" language that allows a horizontal lateral greater contact with the reservoir within the lease boundaries.

Reliance requests that the field be designated as the correlative interval from 11,210 feet and 11,716 feet as shown on the log of the Mabee JE Well No. 1. This interval includes the entire Atoka detrital sands, which consists of several separate sand members. A two factor allocation formula based on 50% acreage and 50% per well will meet statutory requirements.

### FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice and no protests were received.
2. The Lowe (Atoka) Field was discovered in July 1975 at a depth of 11,220 feet. The field produces from the Atoka formation. The field operates under Statewide rules.
3. There is currently one gas well and no oil wells listed on the proration schedule. There are 136 wells which show completions in the Atoka that are commingled with and placed in the Spraberry (Trend Area) Field. Reliance recently completed the first horizontal well in the field. Cumulative production from the field through November 2011 is 93,505 BO.
4. The Lowe (Atoka) Field should be designated as the correlative interval from 11,210 feet and 11,716 feet as shown on the log of the Mabee JE Well No. 1. This interval includes the entire Atoka detrital sands, which consists of several separate sand members.
5. Adoption of a 320/optional 40 acre density and additional acres for horizontal wells with a maximum 640 acres for the subject field is appropriate.
  - a. Development of the Atoka with horizontal wellbores is new in this area.
  - b. Drainage area calculations for the 26 vertical wells in the Lowe (Atoka) Field indicate the wells will drain between 2 and 294 acres.
  - c. The most productive vertical well (Chevron Mabee JE -A- NCT-1 well) had an initial potential of 101 BOPD and a drainage area calculation of 228 acres. The Mabee 138 Well No. 705H (horizontal well) had an initial potential 2.8 times higher than the Chevron Mabee JE -A- NCT-1 well (vertical well).
  - d. The Moonlight (Mississippian) Field and Baumann (Pennsylvanian) Field both produce from an interval correlative to the Lowe (Atoka) Field and have 640 acre units.

6. Reliance requests an acreage factor based on evidence that there are areas of the field that have extensive micro fractures that when drilled into will drain above average areas of the reservoir.
7. The Examiner's Report for Oil and Gas Docket No. 8-88,414 issued on September 26, 1986 for the review of temporary field rules for the Moonlight (Mississippian) Field discusses the existence of the fracture system. Exxon, the applicant in that docket, used pressure test data and drainage calculations to support continuation of the 640 acre density development.
8. The horizontal rules field rules proposed by Reliance will allow efficient and orderly development of the Lowe (Atoka) Field with horizontal wells.
9. Adoption of 0' between well spacing is consistent with the spacing rules of other horizontal play fields undergoing horizontal development. The 0' between well spacing will allow the drilling of horizontal wells in between the existing vertical wells and allow maximum flexibility in placing horizontal wells to maximize hydrocarbon recovery.
10. Adoption of a special rule allowing that the first and last take point on a horizontal well to be as near as 467 feet from any property line, lease line, or subdivision line will allow the recovery of reserves that would otherwise go unrecovered.
11. The proposed 50 foot "box rule" is necessary to allow operators reasonable minor deviations from the wellbore track that has been permitted.

#### **CONCLUSIONS OF LAW**

1. Proper notice of this hearing was issued.
2. All things have been accomplished or have occurred to give the Commission jurisdiction in this matter.
3. Adopting the Field Rules for the Lowe (Atoka) Field is necessary to prevent waste, protect correlative rights and promote development of the field.

**RECOMMENDATION**

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission adopt the Field Rules for the Lowe (Atoka) Field as requested.

Respectfully submitted,



Andres J. Trevino, P.E.  
Technical Examiner



Marshall F. Enquist  
Hearings Examiner